**Amendments to the Claims**:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1 - 29 (Canceled)

30. (New) An optical system comprising:

a birefringent element, disposed in an optical path of the optical system, that achieves a substantially circumferential distribution or a substantially radial distribution as a fast axis distribution in a lens aperture; and

an optical rotator disposed behind the birefringent element and adapted to rotate a polarization state in the lens aperture.

31. (New) The optical system according to Claim 30,

wherein the birefringent element includes an optically transparent member which is made of a uniaxial crystal material and a crystallographic axis of which is arranged substantially in parallel with an optical axis of the optical system, and

wherein a beam bundle of substantially spherical waves in a substantially circular polarization state is incident to the optically transparent member.

32. (New) The optical system according to Claim 30,

wherein the birefringent element includes at least a pair of optically transparent members made of a crystal material of the cubic system,

wherein the pair of optically transparent members are so positioned as to achieve the substantially circumferential distribution or the substantially radial distribution as the fast axis distribution in the lens aperture, and

wherein a beam bundle of substantially spherical waves in a substantially circular polarization state is incident to the pair of optically transparent members.

33. (New) The optical system according to Claim 32,

wherein the pair of optically transparent members are arranged in a state in which a crystal orientation <111> is substantially parallel with an optical axis of the optical system and in which the other crystal orientations are relatively rotated by about 60° around the optical axis.

34. (New) The optical system according to Claim 32,

wherein the pair of optically transparent members are arranged in a state in which a crystal orientation <100> is substantially parallel with an optical axis of the optical system and in which the other crystal orientations are relatively rotated by about 45° around the optical axis.

35. (New) The optical system according to Claim 30,

wherein the birefringent element includes an optically transparent member which is located near a pupil of the optical system and which includes internal stress substantially with rotational symmetry with respect to an optical axis of the optical system, and

wherein a beam bundle in a substantially circular polarization state is incident to the optically transparent member.

36. (New) The optical system according to Claim 30,

wherein the optical rotator is located at a position where a beam bundle is incident thereto with variation of not more than 10° in an angle of incidence.

37. (New) The optical system according to Claim 30,

wherein the optical rotator rotates the polarization state in the lens aperture by about 45°.

38. (New) The optical system according to Claim 30,

said optical system including a projection optical system which forms an image of a first plane on a second plane.

39. (New) The optical system according to Claim 38,

wherein the projection optical system is arranged to be substantially telecentric on the first plane side, and

wherein the birefringent element is located in an optical path which is substantially telecentric on the first plane side.

40. (New) The optical system according to Claim 30,

said optical system including an illumination optical system which illuminates a surface to be illuminated, in a substantially telecentric manner.

41. (New) The optical system according to Claim 40,

wherein the birefringent element is located at or near a position optically conjugate with the surface to be illuminated, in an optical path of the illumination optical system.

42. (New) The optical system according to Claim 40,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil plane, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

43. (New) The optical system according to Claim 42,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

44. (New) The optical system according to Claim 30,

said optical system including an illumination optical system which illuminates a first plane in a substantially telecentric manner; and a projection optical system which forms an image of the first plane on a second plane.

45. (New) The optical system according to Claim 44,

wherein the birefringent element is located in an optical path of the illumination optical system, and

wherein the optical rotator is located in an optical path of the projection optical system.

46. (New) The optical system according to Claim 45,

wherein the birefringent element is located near the first plane, or at or near a position optically conjugate with the first plane, in the optical path of the illumination optical system.

47. (New) The optical system according to Claim 46,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil plane, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

48. (New) The optical system according to Claim 47,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

49. (New) The optical system according to Claim 30,

said optical system being an optical system for lithography.

50. (New) An optical system comprising:

a birefringent optical rotator which is made of an optical material with linear birefringence and optical rotatory power and an optic axis of which is arranged substantially in parallel with an optical axis of the optical system,

wherein a beam bundle in a substantially circular polarization state is incident to the birefringent optical rotator.

51. (New) The optical system according to Claim 50,

wherein the birefringent optical rotator is located at a position where a beam bundle of substantially spherical waves is incident thereto, and

includes a required thickness for converting a beam bundle in a peripheral region of the incident beam bundle into a beam bundle in a substantially linear polarization state of substantially circumferential vibration in a lens aperture.

52. (New) The optical system according to Claim 51,

wherein the birefringent optical rotator includes

a first optically transparent member made of an optical material with clockwise optical rotatory power, and

a second optically transparent member made of an optical material with counterclockwise optical rotatory power.

53. (New) The optical system according to Claim 51,

said optical system including a projection optical system which forms an image of a first plane on a second plane.

54. (New) The optical system according to Claim 53,

wherein the projection optical system is arranged to be substantially telecentric on the first plane side, and

wherein the birefringent optical rotator is located in an optical path which is substantially telecentric on the first plane side.

55. (New) The optical system according to Claim 53,

wherein the projection optical system is arranged to be substantially telecentric on the second plane side, and

wherein the birefringent optical rotator is located in an optical path which is substantially telecentric on the second plane side.

56. (New) The optical system according to Claim 50,

said optical system including an illumination optical system which illuminates a surface to be illuminated, in a substantially telecentric manner.

57. (New) The optical system according to Claim 56,

wherein the birefringent optical rotator is located near the surface to be illuminated, or at or near a position optically conjugate with the surface to be illuminated, in an optical path of the illumination optical system.

58. (New) The optical system according to Claim 57,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil plane, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

59. (New) The optical system according to Claim 58,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

60. (New) The optical system according to Claim 50,

said optical system including a projection optical system which forms an image of a first plane on a second plane.

61. (New) The optical system according to Claim 60,

wherein the projection optical system is arranged to be substantially telecentric on the first plane side, and

wherein the birefringent optical rotator is located in an optical path which is substantially telecentric on the first plane side.

62. (New) The optical system according to Claim 60,

wherein the projection optical system is arranged to be substantially telecentric on the second plane side, and

wherein the birefringent optical rotator is located in an optical path which is substantially telecentric on the second plane side.

63. (New) The optical system according to Claim 61,

said optical system including an illumination optical system which illuminates a surface to be illuminated, in a substantially telecentric manner.

64. (New) The optical system according to Claim 63,

wherein the birefringent optical rotator is located near the surface to be illuminated, or at or near a position optically conjugate with the surface to be illuminated, in an optical path of the illumination optical system.

65. (New) The optical system according to Claim 64,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil plane, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

66. (New) The optical system according to Claim 65,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

67. (New) The optical system according to Claim 63,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil plane, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

68. (New) The optical system according to Claim 67,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

69. (New) The optical system according to Claim 50,

said optical system being an optical system for lithography.

70. (New) An optical system comprising:

a birefringent element;

an optical rotator located in an optical path behind the birefringent element; and

an optical member located in an optical path between the birefringent element and the optical rotator and including a predetermined power.

71. (New) The optical system according to Claim 70,

wherein the birefringent element includes an optically transparent member which is made of a uniaxial crystal material and a crystallographic axis of which is arranged substantially in parallel with an optical axis of the optical system.

72. (New) The optical system according to Claim 71,

wherein a beam bundle of substantially spherical waves in a substantially circular polarization state is incident to the optically transparent member.

73. (New) The optical system according to Claim 72,

wherein the birefringent element achieves a substantially circumferential distribution or a substantially radial distribution as a fast axis distribution in a lens aperture, and

wherein the optical rotator rotates a polarization state in the lens aperture.

74. (New) The optical system according to Claim 70,

wherein the birefringent element includes at least a pair of optically transparent members made of a crystal material of the cubic system;

wherein the pair of optically transparent members are positioned so as to achieve the substantially circumferential distribution or the substantially radial distribution as the fast axis distribution in the lens aperture, and

wherein a beam bundle of substantially spherical waves in a substantially circular polarization state is incident to the pair of optically transparent members.

75. (New) The optical system according to Claim 70,

wherein the birefringent element includes an optically transparent member located near a pupil of the optical system and including internal stress substantially with rotational symmetry with respect to an optical axis of the optical system, and

wherein a beam bundle in a substantially circular polarization state is incident to the optically transparent member.

76. (New) The optical system according to Claim 70,

wherein the optical member including the predetermined power comprises a lens.

77. (New) The optical system according to Claim 70,

said optical system including an illumination optical system which illuminates a surface to be illuminated.

78. (New) The optical system according to Claim 77,

wherein the birefringent element is located near the surface to be illuminated, or at or near a position optically conjugate with the surface to be illuminated, in an optical path of the illumination optical system, and

wherein the optical member including the predetermined power includes an imaging optical system which establishes the position optically conjugate with the surface to be illuminated.

79. (New) The optical system according to Claim 78,

wherein the birefringent element is located at or near the position optically conjugate with the surface to be illuminated, in the optical path of the illumination optical system, and

wherein the optical rotator is located in the imaging optical system in the illumination optical system.

80. (New) The optical system according to Claim 78,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil surface, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

81. (New) The optical system according to Claim 80,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

82. (New) The optical system according to Claim 70,

said optical system being an optical system for lithography.

83. (New) An optical system including an optical axis, comprising:

a first optically transparent member which is made of a uniaxial crystal material and a crystallographic axis of which is arranged substantially in parallel with the optical axis;

a second optically transparent member which is made of a uniaxial crystal material and a crystallographic axis of which is arranged substantially in parallel with the optical axis; and

an optical member located in an optical path between the first optically transparent member and the second optically transparent member and including a predetermined power.

84. (New) The optical system according to Claim 83,

wherein the first optically transparent member is made of a material selected from rock crystal, magnesium fluoride, and lithium aluminum calcium fluoride, and

wherein the second optically transparent member is made of rock crystal.

85. (New) The optical system according to Claim 83,

wherein a beam bundle of substantially spherical waves in a substantially circular polarization state is incident to the first optically transparent member.

86. (New) The optical system according to Claim 85,

wherein the first optically transparent member achieves a substantially circumferential distribution or a substantially radial distribution as a fast axis distribution in a lens aperture, and

wherein the second optically transparent member rotates a polarization state in the lens aperture.

87. (New) The optical system according to Claim 83,

wherein the optical member including the predetermined power comprises a lens.

88. (New) The optical system according to Claim 83,

said optical system including an illumination optical system which illuminates a surface to be illuminated.

89. (New) The optical system according to Claim 88,

wherein the first optically transparent member is located near the surface to be illuminated, or at or near a position optically conjugate with the surface to be illuminated, in an optical path of the illumination optical system, and

wherein the optical member including the predetermined power includes an imaging optical system which establishes the position optically conjugate with the surface to be illuminated.

90. (New) The optical system according to Claim 89,

wherein the first optically transparent member is located at or near the position optically conjugate with the surface to be illuminated, in the optical path of the illumination optical system, and

wherein the second optically transparent member is located in the imaging optical system in the illumination optical system.

91. (New) The optical system according to Claim 89,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil surface, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the

illumination pupil and including the optical axis is smaller than an optical intensity in a region around the pupil center region.

92. (New) The optical system according to Claim 91,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

93. (New) The optical system according to Claim 83,

said optical system being an optical system for lithography.

94. (New) An exposure apparatus comprising:

an optical system which effects exposure of a predetermined pattern on a photosensitive substrate,

wherein said optical system comprises:

a birefringent element which achieves a substantially circumferential distribution or a substantially radial distribution as a fast axis distribution in a lens aperture; and

an optical rotator located behind the birefringent element and adapted to rotate a polarization state in the lens aperture.

95. (New) The exposure apparatus according to Claim 94,

wherein the optical system includes an illumination optical system which illuminates the predetermined pattern in a substantially telecentric manner.

96. (New) The exposure apparatus according to Claim 95,

wherein the birefringent element is located at or near a position optically conjugate with the surface to be illuminated, in an optical path of the illumination optical system.

97. (New) The exposure apparatus according to Claim 95,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil surface, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including the optical axis is smaller than an optical intensity in a region around the pupil center region.

98. (New) The exposure apparatus according to Claim 97,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

99. (New) The exposure apparatus according to Claim 94,

wherein the optical system includes:

an illumination optical system which illuminates the predetermined pattern surface in a substantially telecentric manner; and

a projection optical system which forms an image of the predetermined pattern surface on a surface of a photosensitive substrate.

100. (New) The exposure apparatus according to Claim 99,

wherein the birefringent element is located in an optical path of the illumination optical system, and

wherein the optical rotator is located in an optical path of the projection optical system.

101. (New) The exposure apparatus according to Claim 100,

wherein the birefringent element is located near a first plane, or at or near a position optically conjugate with the first plane, in the optical path of the illumination optical system.

102. (New) The exposure apparatus according to Claim 99,

wherein the projection optical system forms the image of the predetermined pattern surface on the surface of the photosensitive substrate through a liquid.

103. (New) An exposure apparatus comprising:

an optical system which effects exposure of a predetermined pattern on a photosensitive substrate,

wherein the optical system comprises:

a birefringent optical rotator which is made of an optical material with linear birefringence and optical rotatory power and an optic axis of which is arranged substantially in parallel with an optical axis of the optical system, and

wherein a beam bundle in a substantially circular polarization state is incident to the birefringent optical rotator.

104. (New) The exposure apparatus according to Claim 103,

wherein the birefringent optical rotator is located at a position where a beam bundle of substantially spherical waves is incident thereto, and includes a required thickness for converting a beam bundle in a peripheral region of the incident beam bundle into a beam bundle in a substantially linear polarization state of substantially circumferential vibration in a lens aperture.

105. (New) The exposure apparatus according to Claim 103

wherein the optical system includes an illumination optical system which illuminates the predetermined pattern surface in a substantially telecentric manner.

106. (New) The exposure apparatus according to Claim 105,

wherein the birefringent optical rotator is located near the predetermined pattern surface, or at or near a position optically conjugate with the predetermined pattern surface, in an optical path of the illumination optical system.

107. (New) The exposure apparatus according to Claim 106,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil surface, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including the optical axis is smaller than an optical intensity in a region around the pupil center region.

108. (New) The exposure apparatus according to Claim 107,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

109. (New) The exposure apparatus according to Claim 103,

wherein the optical system includes a projection optical system which forms an image of the predetermined pattern surface on a surface of the photosensitive substrate.

110. (New) The exposure apparatus according to Claim 109,

wherein the projection optical system is arranged to be substantially telecentric on the predetermined pattern surface side, and

wherein the birefringent optical rotator is located in an optical path which is substantially telecentric on the predetermined pattern surface side.

111. (New) The exposure apparatus according to Claim 109,

wherein the projection optical system is arranged to be substantially telecentric on the photosensitive substrate surface side, and

wherein the birefringent optical rotator is located in an optical path which is substantially telecentric on the photosensitive substrate surface side.

112. (New) The exposure apparatus according to Claim 109,

wherein the projection optical system forms the image of the predetermined pattern surface on the surface of the photosensitive substrate through a liquid.

113. (New) An exposure apparatus comprising:

an optical system which effects exposure of a predetermined pattern on a photosensitive substrate,

wherein the optical system comprises:

a birefringent element;

an optical rotator located in an optical path behind the birefringent element; and

an optical member located in an optical path between the birefringent element and the optical rotator and including a predetermined power.

114. (New) The exposure apparatus according to Claim 113,

wherein the optical system includes an illumination optical system which illuminates the predetermined pattern surface.

115. (New) The exposure apparatus according to Claim 114,

wherein the birefringent element is located near the predetermined pattern surface, or at or near a position optically conjugate with the predetermined pattern surface, in an optical path of the illumination optical system, and

wherein the optical member including the predetermined power includes an imaging optical system which establishes the position optically conjugate with the predetermined pattern surface.

116. (New) The exposure apparatus according to Claim 115,

wherein the birefringent element is located at or near the position optically conjugate with the predetermined pattern surface, in the optical path of the illumination optical system, and

wherein the optical rotator is located in the imaging optical system in the illumination optical system.

117. (New) The exposure apparatus according to Claim 115,

wherein the illumination optical system forms a secondary light source including a predetermined optical intensity distribution, on an illumination pupil surface, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

118. (New) The exposure apparatus according to Claim 117,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

119. (New) The exposure apparatus according to Claim 114,

wherein the optical system includes a projection optical system which forms an image of the predetermined pattern on a surface of the photosensitive substrate through a liquid.

120. (New) A device fabrication method comprising:

preparing a photosensitive substrate; and

exposing a pattern to be transferred, on the photosensitive substrate through an optical system;

wherein said optical system comprises a birefringent element and an optical rotator,

wherein the exposing comprises:

achieving a substantially circumferential distribution or a substantially radial distribution as a fast axis distribution in a lens aperture by the birefringent element; and

rotating a polarization state in the lens aperture being a polarization state of a beam bundle including passed through the birefringent element, by the optical rotator.

121. (New) The device fabrication method according to Claim 120,

wherein the optical system includes an illumination optical system, and

wherein the exposing includes illuminating the predetermined pattern in a substantially telecentric manner through the optical system.

122. (New) The device fabrication method according to Claim 121,

wherein the birefringent element is located at or near a position optically conjugate with the predetermined pattern surface, in an optical path of the illumination optical system.

123. (New) The device fabrication method according to Claim 121,

wherein the illuminating comprises forming a secondary light source including a predetermined optical intensity distribution, on an illumination pupil plane, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

124. (New) The device fabrication method according to Claim 123,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

125. (New) The device fabrication method according to Claim 120,

wherein the optical system includes an illumination optical system and a projection optical system, and

wherein the exposing includes illuminating the predetermined pattern surface in a substantially telecentric manner by the illumination optical system, and forming an image of the predetermined pattern surface on a surface of the photosensitive substrate by the projection optical system.

126. (New) The device fabrication method according to Claim 125,

wherein the birefringent element is located in an optical path of the illumination optical system, and

wherein the optical rotator is located in an optical path of the projection optical system.

127. (New) The device fabrication method according to Claim 126,

wherein the birefringent element is located near the predetermined pattern surface, or at or near a position optically conjugate with the predetermined pattern surface, in the optical path of the illumination optical system.

128. (New) The device fabrication method according to Claim 120,

wherein the optical system includes a projection optical system, and

wherein the exposing includes forming an image of the predetermined pattern on a surface of the photosensitive substrate through a liquid.

129. (New) A device fabrication method comprising:

preparing a photosensitive substrate; and

exposing a pattern to be transferred, on the photosensitive substrate through an optical system;

wherein the optical system comprises a birefringent optical rotator which is made of an optical material with linear birefringence and optical rotatory power and an optic axis of which is arranged substantially in parallel with an optical axis of the optical system, and

wherein the exposing comprises making a beam bundle in a substantially circular polarization state incident to the birefringent optical rotator.

130. (New) The device fabrication method according to Claim 129,

wherein the making the beam bundle in the substantially circular polarization state incident to the birefringent optical rotator comprises making a beam bundle of substantially spherical waves incident to the birefringent optical rotator, and

wherein the exposing comprises converting a beam bundle in a peripheral region of the beam bundle incident to the birefringent optical rotator, into a beam bundle in a substantially linear polarization state of substantially circumferential vibration in a lens aperture.

131. (New) The device fabrication method according to Claim 129,

wherein the optical system includes an illumination optical system, and

wherein the exposing includes illuminating the predetermined pattern in a substantially telecentric manner through the optical system.

132. (New) The device fabrication method according to Claim 131,

wherein the birefringent optical rotator is located near the predetermined pattern surface, or at or near a position optically conjugate with the predetermined pattern surface, in an optical path of the illumination optical system.

133. (New) The device fabrication method according to Claim 132,

wherein the illuminating comprises forming step of forming a secondary light source including a predetermined optical intensity distribution, on an illumination pupil plane, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

134. (New) The device fabrication method according to Claim 133,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

135. (New) The device fabrication method according to Claim 129,

wherein the optical system includes a projection optical system, and

wherein the exposing includes forming an image of the predetermined pattern on a surface of the photosensitive substrate by the projection optical system.

136. (New) The device fabrication method according to Claim 135,

wherein the projection optical system is arranged to be substantially telecentric on the predetermined pattern surface side, and

wherein the birefringent optical rotator is located in an optical path which is substantially telecentric on the predetermined pattern surface side.

137. (New) The device fabrication method according to Claim 135,

wherein the projection optical system is arranged to be substantially telecentric on the photosensitive substrate surface side, and

wherein the birefringent optical rotator is located in an optical path which is substantially telecentric on the photosensitive substrate surface side.

138. (New) The device fabrication method according to Claim 135,

wherein the forming the image of the predetermined pattern includes forming the image of the predetermined pattern on the surface of the photosensitive substrate through a liquid.

139. (New) A device fabrication method comprising:

preparing a photosensitive substrate; and

exposing a pattern to be transferred, on the photosensitive substrate through an optical system;

wherein the optical system comprises a birefringent element, an optical rotator, and an optical member including a predetermined power, and

wherein the exposing comprises making a beam bundle including passed through the birefringent element, pass in order through the optical member including the predetermined power and through the optical rotator.

140. (New) The device fabrication method according to Claim 139,

wherein the optical system includes an illumination optical system, and

wherein the exposing includes an illumination step for illuminating the predetermined pattern through the optical system.

141. (New) The device fabrication method according to Claim 140,

wherein the birefringent element is located near the predetermined pattern surface, or at or near a position optically conjugate with the predetermined pattern surface, in an optical path of the illumination optical system, and

wherein the illuminating includes establishing the position optically conjugate with the predetermined pattern surface, by the optical member including the predetermined power.

142. (New) The device fabrication method according to Claim 141,

wherein the birefringent element is located at or near the position optically conjugate with the predetermined pattern surface, in the optical path of the illumination optical system, and

wherein the establishing the position optically conjugate with the predetermined pattern surface comprises making a beam bundle pass through the optical rotator.

143. (New) The device fabrication method according to Claim 141,

wherein the illuminating comprises forming a secondary light source including a predetermined optical intensity distribution, on an illumination pupil plane, and

wherein the predetermined optical intensity distribution of the secondary light source is so set that an optical intensity in a pupil center region being a region on the illumination pupil and including an optical axis is smaller than an optical intensity in a region around the pupil center region.

144. (New) The device fabrication method according to Claim 143,

wherein the predetermined optical intensity distribution of the secondary light source includes an optical intensity distribution of an annular shape or multi-pole shape.

145. (New) The device fabrication method according to Claim 141,

wherein the birefringent element is located at or near the position optically conjugate with the predetermined pattern surface, in the optical path of the illumination optical system,

wherein the illuminating comprises guiding a beam bundle from an optical integrator to the predetermined pattern surface, and

wherein the beam bundle including passed through the optical integrator is incident to the optical rotator.

146. (New) The device fabrication method according to Claim 139,

wherein the optical system includes a projection optical system, and

wherein the exposing includes forming an image of the predetermined pattern on a surface of the photosensitive substrate through a liquid.